

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

REC'D 09 SEP 2005	
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Applicant's or agent's file reference 2004P10558WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/JP2004/008014	International filing date (day/month/year) 02.06.2004	Priority date (day/month/year) 02.06.2003	
International Patent Classification (IPC) or national classification and IPC Int.Cl. 7 C08F253/00, C08K3/04, C08L51/04			
Applicant BRIDGESTONE CORPORATION			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> a total of _____ sheets, as follows:</p> <div style="margin-left: 40px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> <p style="margin-left: 20px;">b. <input type="checkbox"/> a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 10%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand 18.03.2005	Date of completion of this report 23.08.2005	
Name and mailing address of the IPEA/JP Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer Yoshihiro FUJI	4J 8830
	Telephone No. +81-3-3581-1101 Ext. 3457	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008014

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☒ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. IV Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is:

- ☐ complied with.
- ☒ not complied with for the following reasons:

It is considered that 14 inventions, which have the common subject matter (Modified Natural Rubber A), are claimed in this international application. (See Supplemental Box)
The Modified Natural Rubber A, however, is well known to the public as taught by the three documents cited in this international search report. Therefore, this subject matter common to all the inventions is not a special technical feature that defines a contribution over the prior art as defined in PCT Rule 13.2. On the other hand, it does not seem that there is any other inventive link between these inventions. Thus this international application does not comply with the requirement of unity of invention in accordance with PCT Rule 13.1, 13.2 and 13.3.

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-2

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008014

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

Claims

1-2

YES

NO

Inventive step (IS)

Claims

Claims

1-2

YES

NO

Industrial applicability (IA)

Claims

Claims

1-2

YES

NO

2. Citations and explanations(Rule 70.7)

Document 1: JP 2001-288228 A (Techno Polymer KK) 2001.10.16, claims 1-3; paragraphs [0005] to [0011], [0018], [0023] and [0029] (Family: none)

Document 2: JP 3-255113 A (Japan Atomic Energy Research Institute) 1991.11.14, claims 1-3; Example (Family: none)

Document 3: GB 1505402 A (I.S.R. Holding, S.A.R.L.) 1978.03.30, claims 1-14; Page 3, lines 4-5; Examples (Family: none)

The documents 1-3 discloses modified natural rubbers characterized by graft-polymerizing natural rubber latex with a polar group-containing monomer and then coagulating and drying, which is regarded as an essential technical feature of claim 1. Thus it is reasonable to assume that the novelty of claim 1 is defeated by these documents (Art. 33(2) PCT). The same reasoning applies to the dependent claim 2 (Art. 33(2) PCT).

The inventions of claims 1-2 appear industrially applicable (Art. 33(4) PCT).

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: Box. No. IV

This International Preliminary Examining Authority found multiple inventions in this international application, as follows:

- Invention 1: A modified natural rubber characterized by graft-polymerizing natural rubber latex with a polar group-containing monomer at a grafting ratio of 0.01-5.0% by mass and then coagulating and drying. (Modified Natural Rubber A) [Claims 1-2]
- Invention 2: A method of producing Modified Natural Rubber A. [Claims 3-4]
- Invention 3: A rubber composition comprising Modified Natural Rubber A, and carbon black and/or silica. [Claims 5-8]
- Invention 4: A pneumatic tire characterized by applying a rubber composition including Modified Natural Rubber A to a tire constituting member. [Claim 9]
- Invention 5: A modified natural rubber characterized by adding a tin-containing monomer to natural rubber latex and graft-polymerizing them and then coagulating and drying. (Modified Natural Rubber A') [Claims 13-15]
- Invention 6: A modified natural rubber latex. (Modified Natural Rubber A' in a latex state) [Claims 10-12]
- Invention 7: A method of producing Modified Natural Rubber A' in a latex state. [Claims 16-18]
- Invention 8: A method of producing Modified Natural Rubber A'. [Claims 19-21]
- Invention 9: A rubber composition comprising Modified Natural Rubber A' and carbon black. [Claim 22]
- Invention 10: A modified natural rubber characterized by adding an alkoxysilyl group-containing monomer to natural rubber latex and graft-polymerizing them and then coagulating and drying. (Modified Natural Rubber A'') [Claims 25-26]
- Invention 11: A modified natural rubber latex. (Modified Natural Rubber A'' in a latex state) [Claims 23-24]
- Invention 12: A method of producing Modified Natural Rubber A'' in a latex state. [Claims 27-28]
- Invention 13: A method of producing Modified Natural Rubber A'' [Claims 29-30]
- Invention 14: A rubber composition comprising Modified Natural Rubber A'' and silica. [Claim 31]